(No Model.) 3 Sheets—Sheet 1.

E. MEYER.

AUTOMATIC ALARM APPARATUS.

No. 397,657. Patented Feb. 12, 1889.

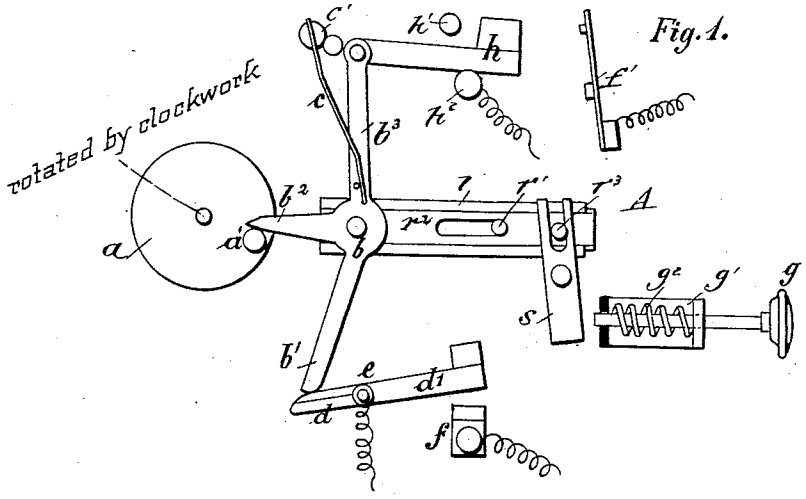
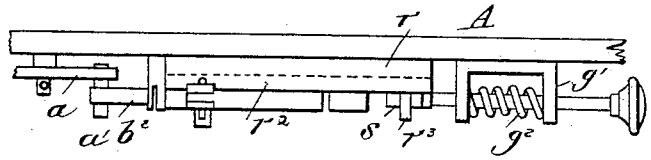


Fig. 1.

Fig. 5.



Witnesses.
C. M. Clark
Sedgwick

Inventor:
E. Meyer
by Munn & Co
Attorneys.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 3 Sheets—Sheet 2.

E. MEYER.

AUTOMATIC ALARM APPARATUS.

No. 397,657. Patented Feb. 12, 1889.

Fig. 2.

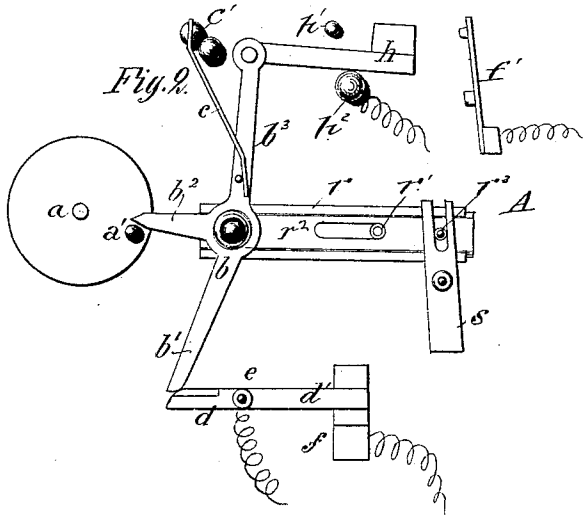
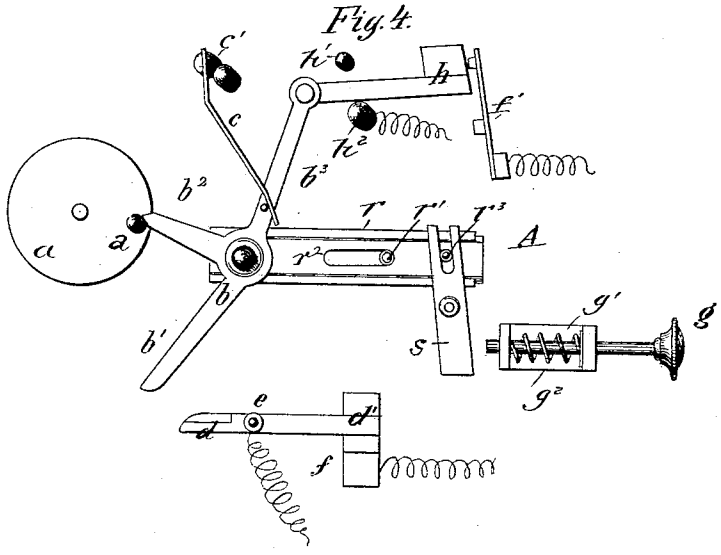


Fig. 4.



Witnesses:
C. M. Clark
Sedgwick

Inventor:
E. Meyer
by Munn & Co
Attorneys.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 3 Sheets—Sheet 3.

E. MEYER.

AUTOMATIC ALARM APPARATUS.

No. 397,657. Patented Feb. 12, 1889.

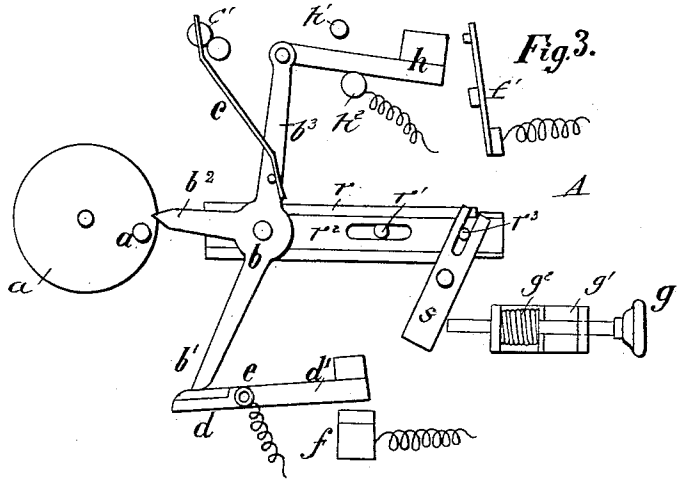


Fig. 3.

Witnesses.
E. M. Clark.
C. Sedgwick

Inventor.
E. Meyer
by Munn & Co
Attorneys.

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

EMIL MEYER, OF OTTLEBEN, PRUSSIA, GERMANY.

AUTOMATIC ALARM APPARATUS.

SPECIFICATION forming part of Letters Patent No. 397,657, dated February 12, 1889.

Application filed November 3, 1888. Serial No. 289,894. (No model.)

To all whom it may concern:

Be it known that I, EMIL MEYER, a subject of the King of Prussia, and a resident of Ottleben, in the Kingdom of Prussia and Empire of Germany, have invented certain new and useful Improvements in Automatic Alarm Apparatus, of which the following is a full, clear, and exact description.

My invention relates to automatic alarm apparatus; and its object is to be provide a device whereby watchmen, firemen, and others in manufactories who are required to visit, at regular intervals, furnaces, kilns, &c., and replenish the same with fuel or material to be operated upon, may be reminded of the recurrence of their duty, and whereby, in the event of their failure to attend thereto, notice of such neglect may be communicated to the manager or superintendent of the manufactory.

The invention consists in the construction, arrangment, and combination of parts of the alarm apparatus, hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference designate corresponding parts in the several views.

Figure 1 is a front elevation of the apparatus, showing the parts in their normal position. Fig. 2 is a similar view of the same, showing the parts in position to sound an alarm to the watchman or fireman. Fig. 3 is a similar view of the same, showing the parts in position to silence the alarm. Fig. 4 is a similar view of the same, showing the parts in position to sound an alarm both to the watchman or fireman and to the manager or superintendent, and Fig. 5 is a plan view of the apparatus, the parts being in the position shown in Fig. 1.

In carrying out my invention, I secure, in any proper manner, to the wall A of the structure containing the furnace or kiln, or it may be to the interior of a casing of suitable dimensions secured to said wall, a horizontal keeper-plate, r, in and upon which plate and a guide-pin, r', fixed therein is adapted to slide a slotted plate, r^2, having fixed therein at one end a pin, r^3, adapted to be embraced by the forked upper extremity of a lever, s, fulcrumed below the plate r, the other extremity of said lever being adapted to be engaged by a pin, g, sliding in a U-shaped support, g', secured to the wall A below and at one side of the plate r, a spring, g^2, encircling said pin and bearing between the arms of said support and normally acting to press said pin outward.

Upon the opposite extremity of the plate r^2 is fulcrumed a three-armed lever, b, the arm b^2 of which normally projects at a right angle therefrom into the path of a stud, a', carried on the face of a circular disk, a, carried on a shaft preferably connected with and rotated by clock-work (not shown) of the ordinary character.

The arm b' of the lever b is normally adapted to bear upon the short arm of a contact-lever, d, fulcrumed at e below the plate r, the long arm, d', of the latter lever being weighted, and adapted, when the pressure of the arm b' of the lever b is removed from the short arm, to fall and contact with the terminal f of the circuit of an electric battery in said structure of any approved construction and provided with a suitable alarm-bell, the other terminal of said circuit being at the fulcrum e of the contact-lever.

The arm b^3 of the lever b is pivoted to one end of a contact-lever, h, which is weighted at its free extremity and is guided between studs h' h^2 fixed in the wall A, said lever h being adapted to contact with the terminal f' of another electric circuit from a similar electric battery in the manager's or superintendent's office, and also provided with an alarm-bell, the other terminal of said circuit being the stud h^2.

A flat spring, c, secured at one end to a stud, c', fixed in the wall A, extends downward therefrom and bears at its other end upon a pin fixed in the arm b^3 of the lever b, above the fulcrum of said lever, and normally acts to carry the arm b^2 of said lever into the path of the stud on the disk a.

In operation, the parts being in the position shown in Fig. 1, as the disk a is rotated its stud a' raises the arm b^2 of the lever b, causing said lever to turn upon its fulcrum and carry the arm b' toward the point of the short arm of the lever d sufficiently to relieve

said lever from pressure, whereupon the long arm d' falls by its own weight upon the terminal f of the one electric cicruit, as shown in Fig. 2, closing said circuit and causing the alarm-bell therein to ring and remind the fireman or other attendant of his duty. The fireman or attendant then presses the pin g inward until it bears upon the lever s, causing the latter to turn on its fulcrum and draw back the plate r^2, and with it the lever b, against the tension of the spring c, the arm b^2 of the lever b being thus withdrawn from the path of the stud a', and the arm b' caused to bear upon the short arm of the lever d, causing the arm d' of the latter lever to rise from the terminal f, as shown in Fig. 3, and thus break the electric circuit and silence the alarm-bell. On releasing the pressure on the pin g the springs g^2 and c react and restore said pin, the lever b, plate r^2, and lever s to their normal positions, as shown in Fig. 1. If the fireman or attendant is not at hand, or fails to operate the pin g as above described, the lever b will be turned farther on its fulcrum by the contact of the stud a' with its arm b^2, while the bell in the electric circuit last mentioned is still ringing, causing the arm b^3 to carry the contact-lever h into contact with the terminal f' of the other electric circuit, as shown in Fig. 4, thus closing said latter circuit and causing the alarm-bell in the manager's or superintendent's room to ring and give notice of the absence or neglect of duty of such fireman or attendant. The bells in both circuits will continue to ring until the further rotation of the disk a disengages its stud a' from the arm b^2 of the lever b, whereupon the spring c reacts and restores the lever b to its normal position. (Shown in Fig. 1.)

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An automatic alarm apparatus comprising a three-armed lever fulcrumed on a plate horizontally movable in a fixed support, a rotary stud-carrying disk intermittently engaging said lever, contact-levers above and below said plate and actuated by said lever, two electric circuits, each containing a battery and alarm-bell and closed and opened by said levers, and means for automatically restoring the levers to normal position, substantially as shown and described.

2. In an automatic alarm apparatus, the combination, with a three-armed lever fulcrumed on a plate horizontally movable in a fixed support, of a rotary stud-carrying disk intermittently engaging the horizontal arm of said lever, a contact-lever fulcrumed below said support and actuated by a vertical arm of said lever, an electric circuit containing a battery and alarm-bell, said circuit being closed and opened by said levers, and means for automatically restoring said levers to normal position, substantially as shown and described.

3. In an automatic alarm apparatus, the combination, with a three-armed lever fulcrumed on a plate horizontally movable in a fixed support, a rotary stud-carrying disk intermittently engaging the horizontal arm of said lever, and a contact-lever fulcrumed below said support and actuated by a vertical arm of said lever, of a horizontal contact-lever connected to and actuated by the other vertical arm of said lever, two electric circuits each containing a battery and alarm-bell and closed and opened by said levers, and means for automatically restoring said levers to normal position, substantially as shown and described.

4. In an automatic alarm apparatus, the combination, with a plate horizontally movable in a fixed support and having a pin fixed in its face at one extremity, a three-armed lever fulcrumed on the other extremity of said plate, a rotary stud-carrying disk intermittently actuating said lever, contact-levers above and below said support and actuated by said three-armed lever, and two electric circuits opened and closed by said levers, each circuit containing a battery and alarm-bell, of a vertical lever fulcrumed below said support and engaging the pin in said plate, a horizontally-movable pin adapted to engage said vertical lever, and means for automatically restoring said sliding pin and levers to normal position, substantially as shown and described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

EMIL MEYER.

Witnesses:
B. ROI,
PAUL FISCHER.